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POLIOMYELITIS

SURVEILLANCE

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[SUPPLEMENT: INDEX TO 1961 PSU REPORTS]

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U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

PREFACE

Summarized in this report is information received from State Health Departments, university investigators, virology laboratories and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:
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SUMMARY

Weekly telegraphic reports of poliomyelitis reached a record low of two cases, one paralytic, during the seventh week ending February 17. To date in 1962 only 55 cases, 32 paralytic, have been reported.

A number of additional community oral poliovaccine programs were carried out during late 1961 and early 1962. Included in Section 2 is a detailed listing of these together with the results of continuing programs in Hillsborough County (Tampa), Florida, and Newberry County, South Carolina.

The latest count of poliovirus isolations throughout the nation is presented along with the status of 60-day follow-up case records and routine surveillance.

Also included in this issue is the 1961 summary report of non-polio enterovirus isolates.

Featured in Section 6 is a report of the 1961 Canadian poliomyelitis incidence together with further details of the Japanese experience and concurrent nation-wide use of oral poliovaccine.

The supplement to this PSU Report contains the index to the 1961 PSU Reports.

1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

The number of cases of poliomyelitis reported during the four-week period ending February 17 remained at an expected seasonal ebb. Moreover, the seventh week ending February 17 brought a record low of telegraphic reports with two cases, one paralytic. (See Table I).

Comparative incidence in recent years is presented in Figure 1. Only 55 cases, 32 paralytic, have been reported thus far in 1962 as shown below. Only 16 of the 50 reporting States have accounted for these.

The table below presents current cumulative incidence compared with that of recent years.

	<u>1962</u>	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>
Paralytic	32	36	101	105	77
Total	55	67	143	147	138

2. ORAL POLIOVACCINE PROGRAMS

A. Tampa, Florida

Approximately 172,000 persons residing in Hillsborough County (Tampa), Florida, were fed trivalent oral vaccine during the community-wide program on February 4-11. A second feeding of the trivalent vaccine is planned in late March or early April. This represents the first community feeding of a trivalent mixture of Sabin strains.

B. Newberry County, South Carolina

On February 8, 1962, the residents of this county were offered type I oral poliovaccine from the epidemic reserve of the United States Public Health Service. This program was to augment the immunization started in October, 1961 when type III oral vaccine was given during an epidemic of type III poliomyelitis.

In October, 92 percent of the white and 89 percent of the non-white population under 40 years of age received type III oral vaccine (See PSU Report #247). The February feeding reached a total of 21,281 persons: 92 percent of the white and 80 percent of the non-white population under age 40. On both occasions, 99 percent of the school age population was fed.

Type II oral vaccine will be given on March 29 to complete the immunization.

C. Other Programs

The following table lists nine oral vaccine programs conducted during late 1961 and early 1962 in addition to previously described programs (See PSU Report #245). The largest of these was in Maricopa County (Phoenix), Arizona, where 600,000 doses of type I vaccine were administered in January.

<u>Area</u>	<u>Year</u>	<u>Oral Poliovaccines*</u>		
		<u>Type I</u>	<u>Type II</u>	<u>Type III</u>
Youngstown, Ohio	1961	136,000	---	---
Youngstown, Ohio	1962	---	100,000**	---
Wasco - Sherman Co., Ore.	1961	11,000	---	---
Zanesville, Ohio	1961	45,000	---	---
Columbia Co., Oregon	1962	10,000	---	---
Maricopa Co., Arizona	1962	600,000	---	---
Waterville, Maine	1962	20,000**	---	---
Wayne Co., Ohio	1962	60,000**	---	---
Clarke Co., Nevada	1962	75,000	---	---

* Sabin strains

** Estimate

3. 1961 POLIOMYELITIS REPORTED TO PSU

A. Poliomyelitis Surveillance Case Records

The cumulative total of poliomyelitis cases (onset in 1961) submitted to the Poliomyelitis Surveillance Unit on individual case forms now stands at 1,295 through February 17, 1962. This total represents 98 percent of the 1,327 cases reported by weekly telegrams to the CDC Morbidity and Mortality Unit during 1961.

The subsequent 60-day follow-up clinical evaluations have been received on 1,124 cases or 85 percent of the cases reported to MMWR. This 60-day follow-up study of each case to determine and yield more accurate clinical and laboratory data has been endorsed by the State epidemiologists since 1958.

In 1958, the PSU received such 60-day follow-up reports on 80 percent of the reported cases of poliomyelitis. In 1959, this follow-up reporting improved to 87 percent, and in 1960 a full 94 percent of reported cases was reached.

As we approach the cut-off date of February 28, 1962, 203 cases without 60-day follow-up remain outstanding. With only a few States accounting for the bulk of follow-up forms not yet submitted, the goal of 100 percent is within reach by the end of February.

Of the 1,295 now reported on preliminary case forms, 937 are paralytic, 327 nonparalytic and 31 unspecified as to paralytic status. These cases are presented below in Table 3A by age group and vaccination history.

Table 3A

1961 POLIOMYELITIS CASES BY PARALYTIC STATUS, AGE GROUP AND VACCINATION HISTORY REPORTED ON PSU FORMS (Through February 17, 1962)

Age Group	Paralytic						TOTAL	Percent
	Doses of Vaccine					Unk		
	0	1	2	3	4+			
0-4	202	33	33	38	26	14	346	36.9
5-9	67	15	21	50	42	5	200	21.3
10-14	30	6	11	25	29	7	108	11.5
15-19	18	1	7	20	9	0	55	5.9
20-29	74	6	10	16	8	1	115	12.3
30-39	57	6	6	2	4	5	80	8.5
40+	28	1	0	1	1	2	33	3.5
TOTAL	476	68	88	152	119	34	937	100.0
PERCENT DOSES	52.7	7.5	9.7	16.8	13.2	-	100.0	

Table 3A (Continued)

1961 POLIOMYELITIS CASES BY PARALYTIC STATUS, AGE GROUP
AND VACCINATION HISTORY REPORTED ON PSU FORMS
(Through February 17, 1962)

Age Group	Nonparalytic Doses of Vaccine						TOTAL	Percent
	0	1	2	3	4+	Unk		
0-4	21	5	10	9	9	3	57	17.4
5-9	20	2	7	23	33	11	96	29.4
10-14	8	5	7	17	20	8	65	20.0
15-19	5	2	4	8	10	1	30	9.2
20-29	18	0	7	16	11	3	55	16.8
30-39	11	0	0	4	1	3	19	5.8
40+	1	0	0	1	2	1	5	1.5
TOTAL	84	14	35	78	86	30	327	100.0
PERCENT DOSES	28.3	4.7	11.8	26.3	28.9	-	100.0	

B. Poliovirus Isolations

Poliovirus isolates have now been reported from 434 of the 1,295 cases reported to the Poliomyelitis Surveillance Unit. Type I poliovirus remains slightly more prevalent accounting for 248 (57 percent) of the isolations. Forty-two percent of the isolations are type III with the remaining one percent due to type II. Laboratory reports on the 1961 cases submitted to PSU through the end of February may be submitted through June 30, 1962.

The isolations are shown below by State:

Table 3B

1961 POLIOVIRUS ISOLATIONS BY STATE*

State	Type I	Type II	Type III	TOTAL
Alabama	-	-	8	8
Arkansas	6	-	1	7
California	14	-	4	18
Connecticut	3	-	-	3
Dist. of Col.	-	-	3	3
Florida	6	-	3	9
Georgia	2	-	16	18
Hawaii	2	-	-	2
Idaho	2	1	3	6
Illinois	2	-	-	2

(continued on next page)

* From 1961 cases reported to PSU through February 17, 1962.

Table 3B (Continued)

1961 POLIOVIRUS ISOLATIONS BY STATE*

State	Type I	Type II	Type III	TOTAL
Indiana	3	-	-	3
Kansas	1	-	-	1
Kentucky	1	-	1	2
Louisiana	32	1	7	40
Maryland	1	-	37	38
Michigan	8	-	1	9
Minnesota	2	-	4	6
Mississippi	11	-	2	13
Missouri	1	2	1	4
New Hampshire	-	-	1	1
New Jersey	3	-	4	7
New York	96	-	9	105
North Carolina	-	-	2	2
Ohio	14	-	4	18
Oregon	1	1	3	5
Pennsylvania	12	-	13	25
Rhode Island	1	-	-	1
South Carolina	1	-	24	25
Tennessee	3	-	4	7
Texas	4	-	-	4
Utah	2	-	1	3
Vermont	5	-	-	5
Virginia	-	-	3	3
Washington	2	-	10	12
West Virginia	5	-	-	5
Wisconsin	<u>2</u>	<u>1</u>	<u>11</u>	<u>14</u>
TOTAL	248	6	180	434
PERCENT (1961)	57.1	1.4	41.5	100.0

* From 1961 cases reported to PSU through February 17, 1962.

4. ROUTINE POLIOMYELITIS SURVEILLANCE - 1961

A. Cases With Onset Within 30 Days of Vaccination (Inactivated)

During the four week period from January 21 to February 17, 1962, two cases of poliomyelitis with onset within 30 days of receiving inactivated vaccine (IPV) have been reported to the Poliomyelitis Surveillance Unit. This brings the 1961 total of IPV under-30-day cases to 37, of which 26 are paralytic.

The 2 cases are listed below:

<u>State</u>	<u>Age</u>	<u>Sex</u>	<u>Date Inoculated</u>	<u>Onset Interval (Days)</u>	<u>Mfr.</u>	<u>Lot No.</u>
Missouri	9	M	10-19-61	12	Lilly	Unk.
Vermont	4	M	12-10-61	11	Lilly	3125-782076

B. Cases With Onset Within 30 Days of Vaccination (Oral)

One additional 1961 case of paralytic poliomyelitis with onset within 30 days of receiving oral vaccine (OPV) has been reported to the Poliomyelitis Surveillance Unit during the four week period ending February 17, 1962. This brings the 1961 total of OPV under-30-day cases to 34, of which 26 are paralytic.

The case reported this week is a 23 month old female from Chautauqua County, New York, who was fed type I oral poliovaccine on December 9 and had onset of disease on December 16. The child had previously received 4 doses of inactivated vaccine.

C. Vaccine Distribution

A summary of current and cumulative shipments of inactivated polio-vaccine and multiple antigen vaccine from 1955 to 1961 is presented in tables II and III and figure 2 at the end of this report.

In table II, the quarterly shipments of inactivated vaccine are shown since April, 1955. Through the end of 1961, 400 million cc's of poliomyelitis vaccine have been shipped for use in the United States. Of the 400 million cc's, 47 percent have been shipped to public agencies, 45 percent through commercial channels, 4 percent to the National Foundation and 4 percent as part of quadruple antigen. This is depicted in Figure 2. An additional 111 million cc's have been produced for export use.

Shipments of vaccine decreased for the second consecutive year during 1961. The 46 million (cc's) in 1961 compares to 68 million (cc's) in 1959 and 52 million (cc's) in 1960. At the end of the year, the inventory of unshipped vaccine stood at 4,038,000 cc's which is roughly one-fourth the inventory on hand at the close of 1960.

5. ENTEROVIRUS SURVEILLANCE - FINAL REPORT, 1961

A total of 1,320 nonpolio enterovirus isolates were reported to the Poliomyelitis Surveillance Unit during 1961. The predominant type encountered was Coxsackie B5 which accounted for approximately 57 percent of isolates reported. Numerous family and neighborhood clusters of aseptic meningitis, pleurodynia and obscure febrile illness were ultimately attributed to this organism. A wide geographic range was evident with isolates reported from the eastern seaboard through the midwest and northwest.

Coxsackie B2 and B4 were found much less frequently. A mid-year outbreak of febrile illness in rural Washington State accounted for roughly 50 percent of B2 isolates reported, while B4 was encountered largely in the Hartford and New Haven areas in Connecticut, in New Jersey and in Tennessee.

ECHO virus isolates were generally scattered. Notable exceptions were the repeated isolations of ECHO 11 in eastern Minnesota and ECHO 10 in Illinois. Several specimens from a sizable outbreak of aseptic meningitis in Howard County, Texas, yielded ECHO 9.

The following table presents a final listing of reported non-polio enteroviruses and concludes the 1961 report year. Subsequent PSU Reports will present data on 1962 isolates. Occasionally, delayed 1961 reports when not marked as such may be included in individual State and cumulative figures. Any figures needing correction should be reported to the Poliomyelitis Surveillance Unit.

Non-Polio Enterivorus Isolations from 1961 Specimens
Final Report

State	ECHO*	Coxsackie				TOTAL	Reported By
		B2	B4	B5	Other and Unsp.		
Alabama	3	-	-	2	6	11	W. Smith & T. Hosty
Arkansas	-	1	-	-	-	1	A. Fodor
California	9	5	2	10	4	30	E. Lennette
Colorado	3	-	-	2	-	5	C. Mollohan
Connecticut	1	1	35	21	1	59	G.D. Hsiung, G. Borman & J. Hart
D. C.	-	-	-	-	1	1	W. Wooldridge
Florida	2	-	1	1	-	4	J. Bond
Hawaii	4	-	1	-	8	13	K. Wilcox
Illinois	44	3	-	37	3	87	H. Shaughnessy
Indiana	-	-	4	2	2	8	J. Van Fleet
Iowa	-	1	1	46	-	48	R. Herren & T. Chin
Kansas	4	5	-	24	2	35	C. Hunter
Kentucky	2	1	-	2	-	5	A. Fodor, B. Brown & C. Todd
Georgia	-	-	4	-	-	4	W. Murphy
Idaho	-	-	-	7	-	7	D. Brock

(continued on next page)

Non-Polio Enterovirus Isolations from 1961 Specimens (Continued)

Final Report

State	ECHO*	Coxsackie			Other and		TOTAL	Reported By
		B2	B4	B5	Unsp.			
Louisiana	5	-	2	-	-		7	J. Bruce & G. Hauser
Maryland	2	1	5	55	1		64	C. Perry & C. Silverman
Mass.	4	2	4	53	12		75	R. MacCready, T. Chang J. Enders
Michigan	1	-	1	6	1		9	G. Agate
Minnesota	81	18	3	53	5		160	H. Bauer
Miss.	-	-	-	-	1		1	A. Fodor
Missouri	-	-	-	2	-		2	I. Adams & T. Chin
Montana	-	-	-	12	-		12	M. Soules
N. H.	-	1	-	-	-		1	R. Miliner
N. J.	4	-	12	59	1		76	M. Goldfield & W. Dougherty
N. Y.	8	1	7	42	12		70	R. Albrecht
N. C.	5	-	2	-	1		8	L. Madry
N. D.	-	-	-	29	-		29	T. Chin
Ohio	14	-	5	24	3		46	L. Ey & C. Croft
Oklahoma	-	-	-	7	1		8	F. Hassler
Oregon	-	-	-	6	-		6	G. Brandon & M. Skinner
Pennsylvania	8	-	7	104	1		120	K. Hummelter & I. Gratch
Rhode Island	-	-	-	42	-		42	A. Fodor & T. Chin
S. C.	1	-	2	-	1		4	G. McDaniel
Tennessee	-	2	9	12	2		25	G. Cameron & C. Tucker
Texas	31	17	1	3	13		65	G. Irons, L. Rasmussen & J. Melnick
Utah	3	1	-	18	-		22	R. Fraser & A. Jenkins
Virginia	-	-	-	27	-		27	W. Skinner
Washington	3	58	-	15	-		76	K. Berquist & W. Giedt
Wisconsin	11	1	4	24	7		47	A. Evans
TOTAL	253	119	112	747	89		1320	

* Specific types include sixty-eight ECHO 11 in Minnesota, two in Pennsylvania and in Michigan, and one in Wisconsin: twenty ECHO 9 in Texas, four each in California and Ohio, three each in Louisiana, Massachusetts and Wisconsin, two each in Utah and New York, and one in New Jersey. Other types reported include ECHO 2, 3, 4, 5, 6, 7, 14, 18, 21, 22 and 25.

6. FOREIGN REPORTS

A. Canada

The Dominion of Canada enjoyed an unusually low incidence of poliomyelitis in 1961, with reports of only 186 paralytic cases. Preliminary surveillance case records similar to those used in this country have been received on 163 cases (87.6 percent). Six of the 12 provinces account for the cases reported and show them occurring largely in the unvaccinated preschool age group. The following table presents an analysis of cases by age and vaccination status.

<u>Age Group</u>	<u>Doses of Vaccine</u>					<u>Total</u>	<u>Percent</u>
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3+</u>	<u>Unk</u>		
0-4	49	6	3	11	2	71	43.6
5-9	26	1	1	9	1	38	23.3
10-19	20	1	1	8	2	32	19.6
20+	17	-	2	2	-	21	12.9
Unk	-	-	-	-	1	1	0.6
TOTAL	112	8	7	30	6	163	100.0

PERCENT

<u>DOSES</u>	68.7	4.9	4.3	18.4	3.7	100.0
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Virologic investigation carried out in 82 of these cases has yielded isolates in 62. Type III poliovirus accounted for 55 percent of isolates and type I for 45 percent. Type II was not encountered. As shown in the following table type III was prominent in Quebec, and type I in neighboring Newfoundland and Ontario.

<u>Province</u>	<u>Poliovirus Type</u>			<u>Negative</u>	<u>TOTAL</u>
	<u>I</u>	<u>II</u>	<u>III</u>		
Newfoundland	6	-	-	1	7
Quebec	8	-	26	9	43
Ontario	8	-	1	-	9
Saskatchewan	3	-	2	-	5
Alberta	3	-	5	10	18
TOTAL	28	-	34	20	82
PERCENT	34.1	-	41.5	24.4	100.0

Of the 420 reported cases of aseptic meningitis, preliminary surveillance forms have been received on 179 (42.6 percent). Virologic investigation of 72 of these in four provinces again shows the frequent isolation of type III poliovirus in Quebec. In Alberta the Coxsackie viruses predominated, especially Coxsackie B4.

Province	Poliovirus			Coxsackie				ECHO			Other Viruses	Total
	I	II	III	B2	B4	B5	Other	6	9	Other		
Quebec	1	-	22	3	3	3	10	-	6	-	3	51
Manitoba	-	-	1	-	-	-	-	-	-	-	-	1
Saskatchewan	-	-	-	-	-	-	1	-	-	-	-	1
Alberta	-	-	-	-	9	6	3	1	-	-	-	19
TOTAL	1	-	23	3	12	9	14	1	6	-	3	72

(This report has been abstracted from the Canadian Epidemiological Bulletin 6(1): 1-2, 1961, prepared by Dr. W. R. Simon, Technical Information Officer, Epidemiology Division, D.N.H.&W., Ottawa.)

B. Japan

A preliminary report of the 1961 epidemic of poliomyelitis in Kyushu, Japan, was presented in Poliomyelitis Surveillance Report No. 235 (August 25, 1961). A progress report of the current status of poliomyelitis incidence and the mass immunization campaign with oral vaccine has been received from Dr. Sinichi Matsuda, Chief, Department of Epidemiology, Institute of Public Health, Tokyo.

Through December 9, 1961, a total of 2,445 cases and 188 deaths had been reported to the Ministry of Health and Welfare. These figures are compared to recent years in the table below:

POLIOMYELITIS IN JAPAN

Cumulated Weekly for the Past Five Years

	1961 (Through Dec. 9)	1960 (Through Dec. 3)	1959 (Through Dec. 5)	1958 (Through Dec. 6)	1957 (Through Dec. 7)
Cases	2,445	5,324	2,754	2,556	1,663
Deaths	188	289	207	306	367

An analysis of incidence for the past two years by district is presented on the following page. The districts are arranged geographically from north to south. The major epidemic of 1960 which occurred in the northernmost district of Hokkaido is evident. In contrast, the highest attack rate during 1961 has occurred in the southernmost district of Kyushu.

POLIOMYELITIS IN JAPAN
By District, 1960-61

<u>District</u>	<u>1961</u> <u>(Through 12-9-61)</u>		<u>1960</u> <u>(Through 12-3-60)</u>		
	<u>Cases</u>	<u>Rate*</u>	<u>Cases</u>	<u>Rate*</u>	
Hokkaido	66	1.4	1,551	33.3	
Tohoku	209	2.4	532	6.2	
Kanto	336	2.7	292	2.4	
Tokyo	228	2.5	296	3.3	
Hokuriku	36	0.7	242	5.0	
Chubu	62	1.5	211	5.2	
Tokai	121	1.5	532	6.8	
Kinki	210	1.6	281	2.2	
Chugoku	145	2.2	498	7.8	
Shikoku	56	1.4	179	4.7	
Kyushu	<u>976</u>	<u>8.0</u>	<u>710</u>	<u>6.6</u>	*Rate per
					100,000
TOTAL	2,445	2.8	5,324	6.2	

The outbreak in Kyushu began in the early spring with a predominance of type 1 poliovirus isolated from the early cases. On July 20, a nationwide immunization campaign was initiated with oral poliovaccine. This undertaking utilized the resources of 790 health centers, 1,049 villages, 1,922 towns and 566 cities. A total of 10 million doses of trivalent oral vaccine imported from the USSR and 3 million from Canada was administered to all children under six years of age during a three-week period (July 20 - August 10).

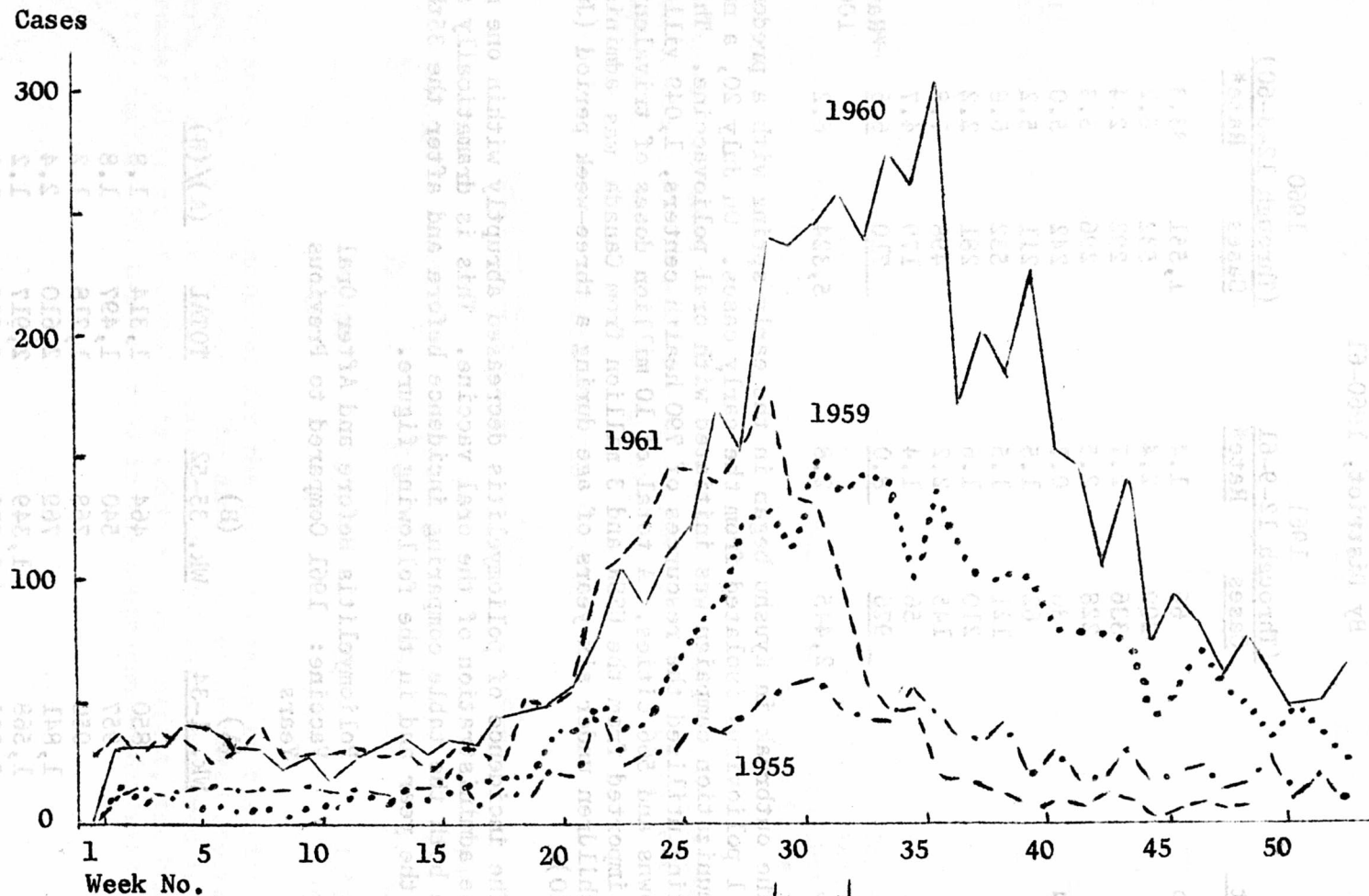
The incidence of poliomyelitis decreased abruptly within one month after the administration of the oral vaccine. This is dramatically shown below in both the table comparing incidence before and after the 35th week of the year and in the following figure.

Poliomyelitis Before and After Oral
Vaccine: 1961 Compared to Previous
Years

<u>Year</u>	<u>(A)</u> <u>Wk. 1-34</u>	<u>(B)</u> <u>Wk. 35-52</u>	<u>TOTAL</u>	<u>(A)/(B)</u>
1955	850	464	1,314	1.8
1956	957	540	1,497	1.8
1957	950	768	1,718	1.2
1958	1,841	769	2,610	2.4
1959	1,568	1,349	2,917	1.2
1960	3,030	2,576	5,606	1.2
1961	2,267	178	2,445*	12.7

* Through 49th week.

CURRENT POLIO INCIDENCE IN JAPAN

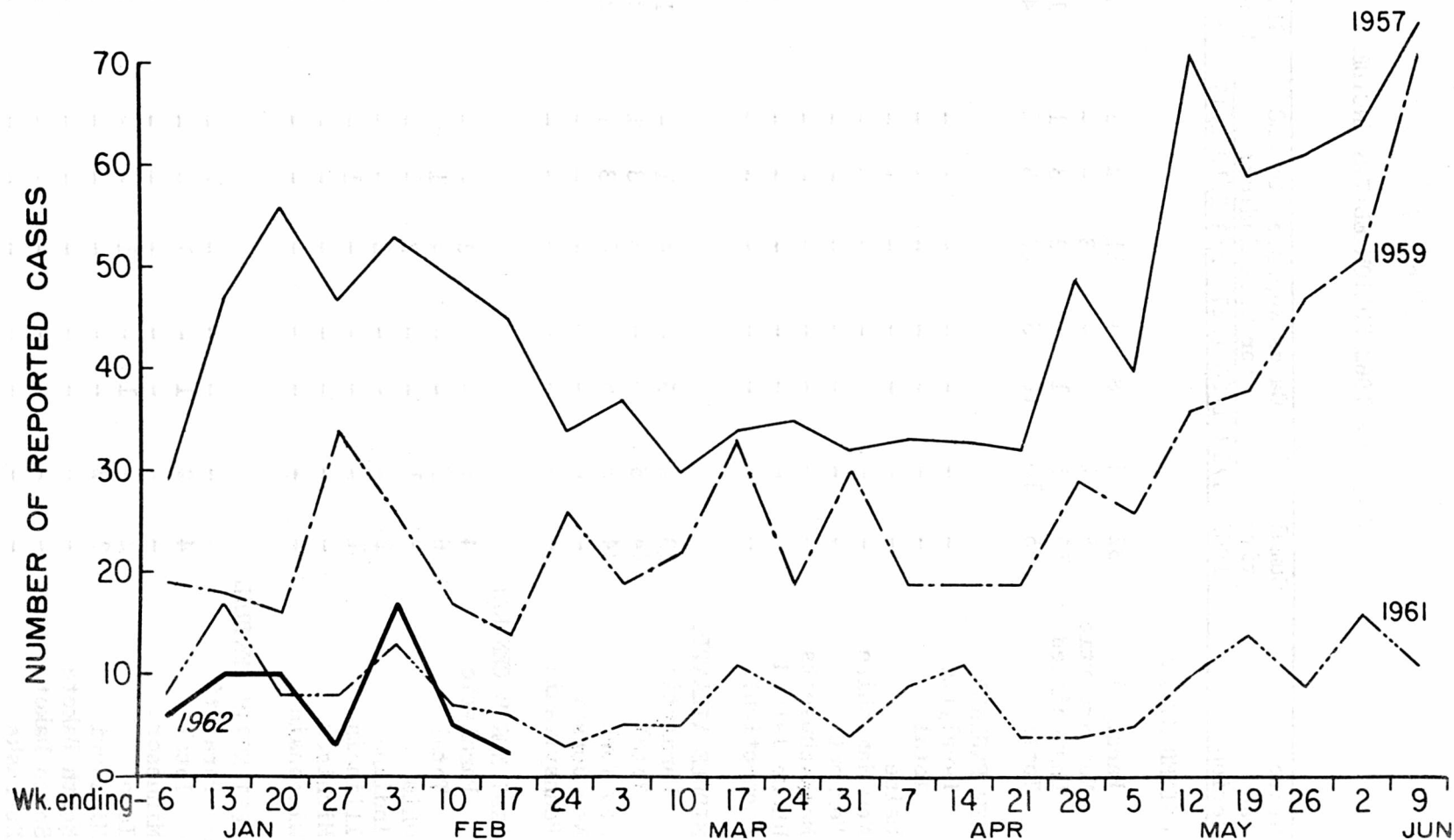


Oral Vaccine
Program
7/20 - 8/10

Figure 1

CURRENT U.S. POLIO INCIDENCE COMPARED WITH YEARS 1957, 1959, and 1961

DATA PROVIDED BY NATIONAL OFFICE OF VITAL STATISTICS
AND COMMUNICABLE DISEASE CENTER



TREND OF 1962 POLIOMYELITIS INCIDENCE

[illegible]

Table II

QUARTERLY SHIPMENTS OF POLIOMYELITIS
VACCINE; 1955 - 1961 (1,000 cc's)

	NATIONAL FOUNDATION	PUBLIC AGENCIES	COMMERCIAL CHANNELS	QUADRUPLE ANTIGEN	DOMESTIC TOTAL
1955:					
Jan - Mar	-	-	-	-	-
Apr - June	-	-	-	-	9,300 (est.)
July - Sept	-	-	-	-	9,200 (est.)
Oct - Dec	-	-	-	-	9,000 (est.)
<u>TOTAL</u>	<u>13,541</u>	<u>7,893</u>	<u>6,223</u>		<u>27,657</u>
1956:					
Jan - Mar	-	-	-	-	11,800 (est.)
Apr - June	-	-	-	-	27,800 (est.)
July - Sept	2	14,178	7,509	-	21,689
Oct - Dec	1	4,857	4,434	-	9,292
<u>TOTAL</u>	<u>194</u>	<u>45,588</u>	<u>24,784</u>		<u>70,566</u>
1957:					
Jan - Mar	8	19,935	13,483	-	33,426
Apr - June	143	16,738	10,277	-	27,158
July - Sept	1	11,811	12,594	-	24,406
Oct - Dec	2	1,542	1,712	-	3,256
<u>TOTAL</u>	<u>154</u>	<u>50,026</u>	<u>38,066</u>		<u>88,246</u>
1958:					
Jan - Mar	100	3,419	8,089	-	11,598
Apr - June	2	6,249	7,947	-	14,198
July - Sept	101	4,903	7,801	-	12,805
Oct - Dec	-	3,962	4,492	-	8,454
<u>TOTAL</u>	<u>203</u>	<u>18,533</u>	<u>28,319</u>		<u>47,055</u>
1959:					
Jan - Mar	80	4,307	5,782	-	10,169
Apr - June	-	7,836	13,332	581	21,749
July - Sept	80	9,160	14,524	2,586	26,350
Oct - Dec	-	4,855	3,915	1,010	9,780
<u>TOTAL</u>	<u>160</u>	<u>26,158</u>	<u>37,553</u>	<u>4,177</u>	<u>68,048</u>
1960:					
Jan - Mar	-	4,296	5,370	1,426	11,092
Apr - June	-	6,149	9,763	2,093	18,005
July - Sept	1	7,691	6,725	2,025	16,442
Oct - Dec	8	1,900	3,141	1,662	6,711
<u>TOTAL</u>	<u>9</u>	<u>20,036</u>	<u>24,999</u>	<u>7,206</u>	<u>52,250</u>
1961:					
Jan - Mar	2	4,512	4,092	1,812	10,418
Apr - June	7	8,054	7,064	1,318	16,443
July - Sept	8	5,078	8,579	56	13,721
Oct - Dec	0	3,268	2,036	36	5,340
<u>TOTAL</u>	<u>17</u>	<u>20,912</u>	<u>21,771</u>	<u>3,222</u>	<u>45,922</u>
GRAND TOTAL	14,278	189,146	181,715	14,605	399,744

Figure 2 QUARTERLY SHIPMENTS OF POLIOMYELITIS VACCINE (Inactivated)
1955-1961

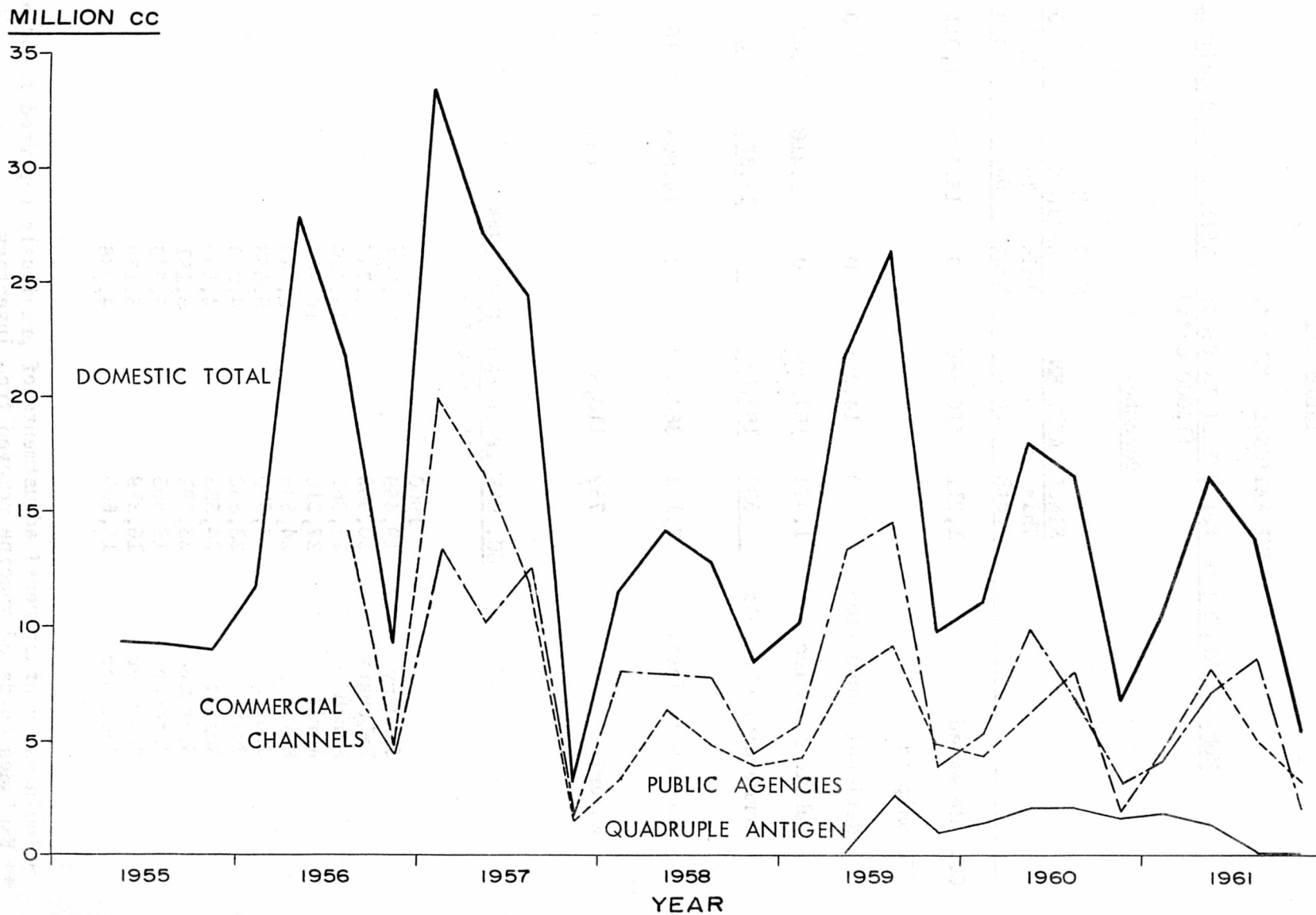


Table III

THE NATIONAL FOUNDATION

MONTHLY REPORT OF POLIOMYELITIS VACCINE RELEASED AND SHIPPED*
(1,000 cc's)December 1961

	<u>SINGLE ANTIGEN</u>		<u>MULTIPLE ANTIGEN</u>		<u>TOTAL</u>	
	<u>This Month</u>	<u>To Date</u>	<u>This Month</u>	<u>To Date</u>	<u>This Month</u>	<u>To Date</u>
CC. Released	1,911	510,566	0	15,586	1,911	526,152
CC. Shipped						
National Foundation	0	14,261	0	0	0	14,261
Public Agencies	1,474	184,091	0	1,416	1,474	185,507
Commercial Channels	<u>689</u>	<u>186,088</u>	<u>2</u>	<u>13,387</u>	<u>691</u>	<u>199,475</u>
Domestic Total	2,163	384,440	2	14,803	2,165	399,243
Export	759	110,570	0	634	759	111,204

CC. UNSHIPPED END OF MONTH**
(1,000 cc's)

	<u>1960</u>	<u>1961</u>
January	19,459	14,755
February	20,965	15,737
March	27,062	13,414
April	27,216	10,887
May	24,846	6,448
June	24,620	6,558
July	23,830	4,233
August	24,525	4,599
September	23,091	6,181
October	19,565	5,543
November	16,319	5,139
December	15,669	4,038

* Includes manufacturers' adjustments of previously reported figures.

** Excludes outdated vaccine removed from inventory.